JEONG et al.   Q63312
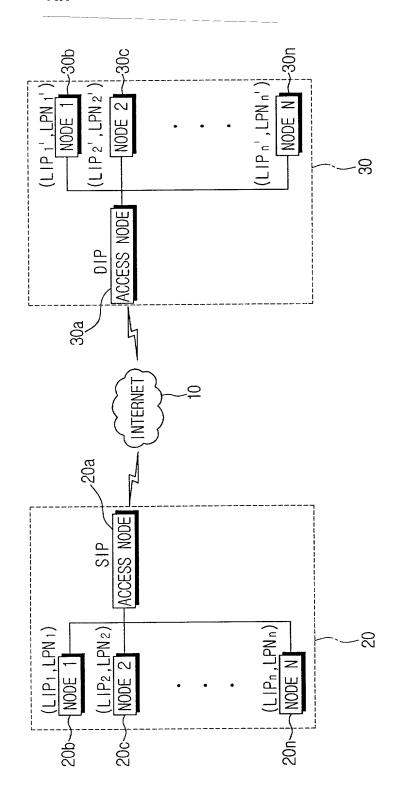SYSTEM AND METHOD FOR ACCESSING NODE
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FIG.1

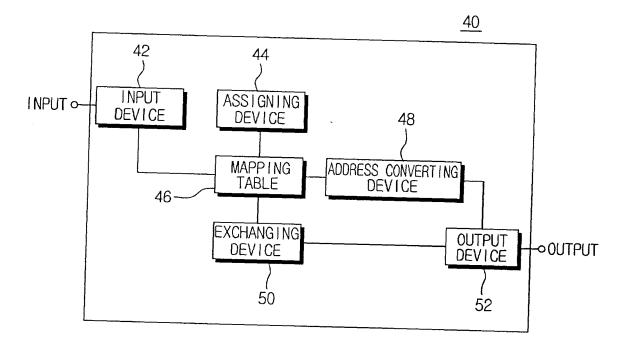JEONG et al.   Q63312
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FIG.2

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FIG.3

```
            ( START )
                |
    INQUIRING NETWORK NODE ──── S202
                |
  COLLECTING NETWORK·NODE DATA ──── S204
                |
       ASSIGNING EXTERNAL
       PORT VALUE TO NODES ──── S206
                |
         GENERATING &
    MANAGING MAPPING TABLE ──── S208
                |
  N          ACCESSIBLE
   ◁─────── BY USING GUI? ──── S209
   |             |
   |             Y
   |    GENERATING WEB PAGE ──── S210
   |             |
   └─────────────┤
                 |
             ( END )
```

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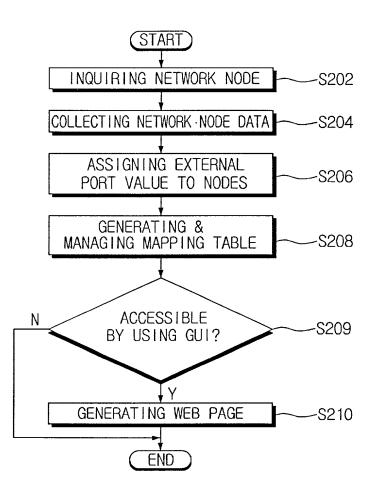Darryl Mexic   202-293-7060
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FIG.4

(a)

HARDWARE ADDRESS	PRIVATE IP ADDRESS	INTERNAL PORT VALUE	GLOBAL IP ADDRESS	EXTERNAL PORT VALUE
HA_1	LIP_1	LPN_1	SIP	GPN_1
HA_2	LIP_2	LPN_2	SIP	GPN_2
⋮	⋮	⋮	⋮	⋮
HA_n	LIP_n	LPN_n	SIP	GPN_n

(b)

HARDWARE ADDRESS	PRIVATE IP ADDRESS	INTERNAL PORT VALUE	GLOBAL IP ADDRESS	EXTERNAL PORT VALUE
HA_1'	LIP_1'	LPN_1'	DIP	GPN_1'
HA_2'	LIP_2'	LPN_2'	DIP	GPN_2'
⋮	⋮	⋮	DIP	⋮
HA_n'	LIP_n'	LPN_n'	DIP	GPN_n'

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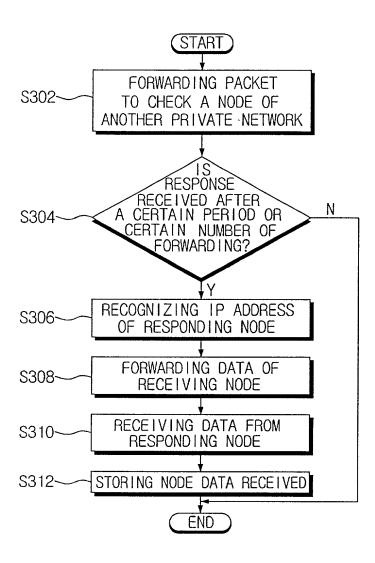Darryl Mexic   202-293-7060
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FIG.5

START

S302 — FORWARDING PACKET TO CHECK A NODE OF ANOTHER PRIVATE NETWORK

S304 — IS RESPONSE RECEIVED AFTER A CERTAIN PERIOD OR CERTAIN NUMBER OF FORWARDING? N

Y

S306 — RECOGNIZING IP ADDRESS OF RESPONDING NODE

S308 — FORWARDING DATA OF RECEIVING NODE

S310 — RECEIVING DATA FROM RESPONDING NODE

S312 — STORING NODE DATA RECEIVED

END

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FIG.6

START

FORWARDING PACKET CONTAINING PRIVATE IP ADDRESS & INTERNAL PORT VALUE OF DESTINATION — S402

CONVERTING PRIVATE IP ADDRESSES & INTERNAL PORT VALUES OF SOURCE & DESTINATION INTO GLOBAL IP ADDRESS & EXTERNAL PORT VALUE AT ACCESS NODE OF SOURCE — S404

FORWARDING DATA TO DESTINATION — S405

CONVERTING GLOBAL IP ADDRESS & EXTERNAL PORT VALUE INTO PRIVATE IP ADDRESS & INTERNAL PORT VALUE AT ACCESS NODE OF DESTINATION — S406

FORWARDING PACKET — S408

END

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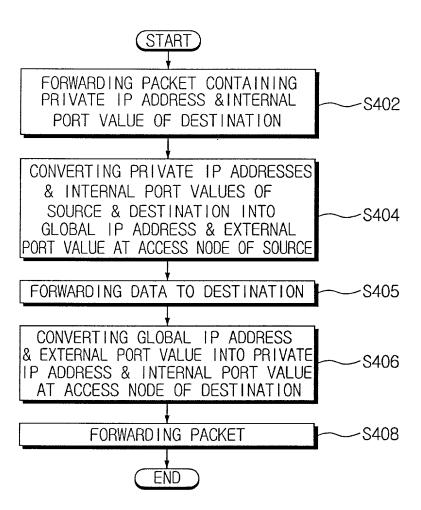# FIG.7

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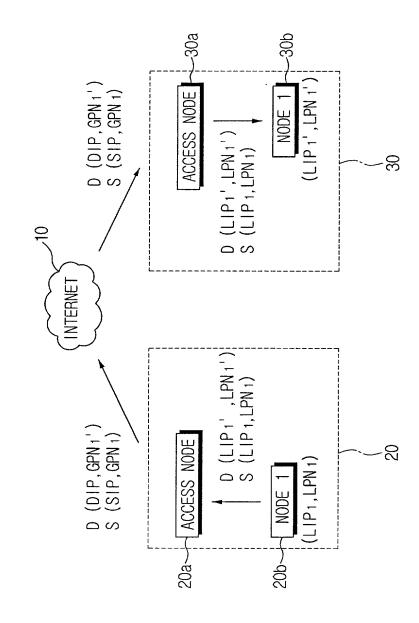Darryl Mexic   202-293-7060
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FIG.8

```
                        ( START )
                            │
                            ▼
┌──────────────────────────────────────┐
│      EXECUTING WEB BROWSER           │────S602
└──────────────────────────────────────┘
                            │
                            ▼
┌──────────────────────────────────────┐
│    CONNECTED TO WEB PAGE BY          │
│   USING GLOBAL IP ADDRESS           │────S604
│        OF DESTINATION               │
└──────────────────────────────────────┘
                            │
                            ▼
┌──────────────────────────────────────┐
│         DISPLAYING NODES            │────S606
└──────────────────────────────────────┘
                            │
                            ▼
┌──────────────────────────────────────┐
│     SELECTING NODE TO ACCESS        │────S608
└──────────────────────────────────────┘
                            │
                            ▼
┌──────────────────────────────────────┐
│    FORWARDING PACKET HAVING         │
│     EXTERNAL PORT NUMBER            │────S610
│       OF SELECTED NODE              │
└──────────────────────────────────────┘
                            │
                            ▼
┌──────────────────────────────────────┐
│  CONVERTING DATA INTO PROPER        │
│    INTERNAL PORT VALUE AT           │────S612
│  ACCESS NODE & FORWARDING           │
│       CONVERTED DATA                │
└──────────────────────────────────────┘
                            │
                            ▼
                        ( END )
```
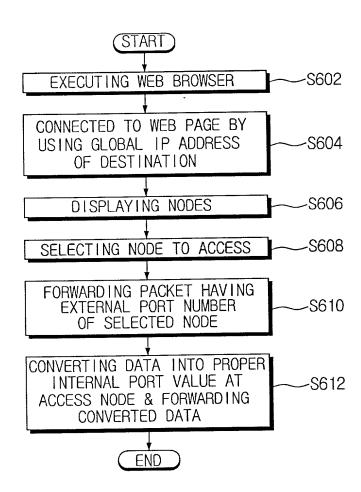
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FIG.9

```
http:// GIP/home.html
```

20a

20b

20c

20d

20e

```
http:// GIP:GPN₁/
```

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